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**BRAZILIAN ICHNEUMONIDÆ AND BRACONIDÆ
OBTAINED BY THE STANFORD EXPEDITION.***

STANFORD EXPEDITION TO BRAZIL, 1911.

J. C. BRANNER, Director.

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All of the species considered in the present paper were obtained by an expedition undertaken by a number of naturalists from Stanford University. The party was led by Prof. J. C. Branner, and during a sojourn of several months, they visited a number of regions where little or no entomological collecting had previously been done. Mr. William M. Mann accompanied the expedition as entomologist, and as might be expected, many of the Parasitic Hymenoptera obtained prove to be undescribed.

I have not been able to deal with every species, for example, members of the genus *Ophion*, as it is quite impossible to recognize with certainty some of the forms described by Fabricius and other of the earlier writers.

A number of genera are here recorded from South America for the first time, and it has been found necessary to propose new genera in several instances for the Brazilian forms.

*Contributions from the Entomological Laboratory of the Bussey Institution, Harvard University, No. 55.

Family ICHNEUMONIDÆ

Subfamily ICHNEUMONINÆ

Cryptopyge obtusa Kriechbaumer.

Berliner Entom. Zeitng., Vol. 43, p. 128. 1898.

There is a female of this species from the Rio Madiera (Madeira-Mamoré, R. R. camp 43).

Kriechbaumer attributes the species to South America with some doubt, but there can be no question regarding the identity of the present female. The antennæ, broken in Kriechbaumer's type, are enlarged from the twelfth joint.

Tetragonochora cetepurange sp. nov.

Male. Length 12.5 mm. Orange yellow, marked with black, the head, pleuræ and venter paler yellow. The black markings are as follows; head above the posterior foramen over the vertex nearly to the antennæ, the yellow extending farther upward on the sides of the front and the orbits where it attains the level of the lower ocellus, on the temples it descends lower, next to the eye, passing the level of the lower ocellus; antennæ; mesonotum on its posterior two-thirds; scutellum with a large spot medially that attains the base, but not the sides nor apex; abdominal petiole at the middle with a V-shaped spot; second, third and fourth abdominal segments each with a broad band that does not attain the sides; fifth segment, except the sides; sixth and seventh and eight segments entirely; posterior knees; posterior tarsi, and apical three joints of middle tarsi. Fore wings deep fulvous on the basal half, then nearly hyaline to the black apex which begins just before the middle of the second section of the radius. Hind wings pale yellowish with blackened tips. Wing veins fulvous before the stigma, piceous beyond; stigma fuscous. Antennæ beyond the middle with the joints dentate below. Head deeply excavated above the antennæ, just below the median ocellus with a transverse tubercular elevation; face on each side with a shallow depression, separated by a median raised portion; clypeus not separated, but with a small, very deep circular impression on each side above, its lower margin straight medially and produced into an angular tooth at each lateral angle. Mandibles with two subequal black teeth. Head entirely smooth and shining, margined behind. Mesonotum minutely punctulate, the middle lobe prominent in front. Scutellum sparsely punctate anteriorly, longitudinally striated on its posterior half; margined laterally and separated from the mesonotum by a deep, longitudinally striated depression. Metathorax punctate; the superomedian area defined anteriorly, but open behind; pleural carina complete to the base of the hind coxa. Abdominal petiole aciculate, its spiracles almost linear, near the tip; second segment aciculate medially and deeply punctate near the lateral margins; third segment with same sculpture, but much finer; remainder of abdomen very finely and sparsely punctulate. Wings with four sided, obliquely trapezoidal areolet. Submedian cell longer than the median by nearly

one-third the length of the basal nervure; discoidal vein arising at the lower third of the second discoidal cell; transverse median vein of hind wing broken almost at its extreme apex.

One male collected by Mann and Baker, at Kete Purange, near Manaos, Brazil.

This species is related to *I. annulata* Brullé from Guiana from which it differs in structure and slightly in color, although of quite similar color-pattern.

Subfamily CRYPTINÆ

Megaplectes branneri sp. nov.

Male. Length 16 mm. Ferruginous, the head and anterior part of the thorax black with yellowish white markings. The entire face and mouthparts are pale, as well as the inner orbits above the antennæ, those behind the upper part of the eye, and the cheeks. The prothorax is also lined above and below, the mesopleura at its anterior upper angle, the scutellum on its sides and behind, and the whole postscutellum and the tegulæ pale. Antennæ black, with broad whitish annulus near the apex. Legs pale yellow, the four posterior ones ferruginous to the tips of the femora. Fore femora along the lower edge, last two joints of fore tarsi, a streak apically below on the middle femur, the middle tibial spurs, last three tarsal joints; second trochanter of hind leg, tip of femur, inner side of tibia and its spurs piceous or black. Wings pale ferruginous, stigma and veins black. Head smooth, impunctate, face with a longitudinal depression each side of the median line terminated below by the large clypeal foveæ; anterior edge of clypeus truncate, very faintly produced at the middle. Antennæ about as long as the body, slender and tapering, the first joint of the flagellum four times as long as thick, following decreasing in length; those toward the middle of the flagellum twice as long as thick; all except a few basal joints slightly nodosely thickened near their tips as in certain genera of Jopini although not so distinctly. Maxillary palpi with the second joint triangularly enlarged, the fifth joint very slender, nearly as long as the two preceding; labial palpi simple. Mesonotum finely, confluent punctate, without parapsidal furrows; scutellum more coarsely and sparsely punctate. Metathorax armed with a pair of unusually large and stout erect lateral spines; incompletely areolated; pleural carinæ complete, very strongly and evenly curved; basal pleural areas complete, sparsely punctate; basal median one smooth medially; hexagonal in position, but open behind, as its sides are prolonged as parallel carinæ the entire length of the metanotum; surface behind the areas transversely rugose, most roughly so behind the lateral spines. All pleuræ shining, more or less punctulate. Metathoracic spiracles elongate, four times as long as broad. Mesoëpisternal groove distinct only in front. Abdominal petiole smooth and shining, with a very few scattered punctures on the sides of the post-petiole. Second segment with deep gastroceli, smooth at the very base; densely finely punctate elsewhere; third segment similarly punctate except at tip; following segments

faintly punctulate. Second to fifth ventral segments with a fold. Body of abdomen lanceolate, the second segment one-half longer than the third. Legs rather slender. Wings with the submedian cell longer than the median; discocubital vein with a faint stump of a vein near the middle. Areolet of moderately large size, slightly oblique, due to the insertion of the recurrent nervure beyond its middle; discoidal vein broken below the middle; transverse median vein in hind wing broken at its lower third.

Pará, Brazil. W. M. Mann. Named for Professor J. C. Branner, the director of the expedition.

This species exhibits an entirely different color scheme from its European congener, but agrees well in the more important structural details. It is the second species to be described and looks much like a genuine *Ichneumon* except for the palpi and spined metathorax.

***Cryptus heathi* sp. nov.**

Female. Length 10 mm. Ovipositor nearly as long as the abdomen, exclusive of the petiole. Head, thorax and antennæ black, with yellowish-white markings; abdomen ferruginous, with narrow apical buff bands on the segments. The pale markings on the head and thorax are as follows; labrum, clypeus, except medially below; broad orbits, nearly meeting below the antennæ and covering the entire head behind below the vertex; joints 9-12 of antennæ; anterior edge of prothorax; lateral edges behind; medial spot on mesonotum; both scutellums; tegulæ; median stripes on metathorax behind carina, greatly widened behind; broad oblique stripe on mesopleura; another on posterior part of metapleura; spot behind wings; and a short stripe ventrally in front of each hind coxa. On the abdomen the white is at the base and apex of the petiole and as a narrow apical band on segments 2-7. The fore legs have the coxæ white, with black base and black spot in front and the basal trochanter white with black spot in front, the femur, tibia and tarsus fulvous with black stripe on femur above and last tarsal joint piceous. Middle legs pale ferruginous, with black spot on basal trochanter above, stripe on femur above and last tarsal joint piceous. Hind legs ferruginous, the apical two tarsal joints and tip of tibia blackened, and the three basal tarsal joints white. Wings hyaline, with piceous stigma and veins; the apex lightly infuscated and a narrow, irregular fuscous band just before the third discoidal cell, not ascending above the basal vein. Antennæ slender, 24-jointed, as long as the body; the joints very short apically, but much lengthened at the base of the flagellum; the first flagellar joint nearly as long as the eye and over six times as long as thick. Head twice as broad as thick; shining, finely margined behind, shining, sparsely punctate above the clypeus; the latter truncate; labrum exposed as a broad lobe; mandibles fuscous, black below; palpi pale, slender. Mesonotum finely, deeply punctate, the parapsidal furrows distinct and the median lobe produced forward

to the lateral ones. Scutellum nearly flat, punctulate. Metathorax evenly rounded above, finely closely punctate anteriorly, microscopically transversely rugose-aciculate behind, near the basal third with an evenly arcuate transverse carina; no trace of lateral projections or teeth; spiracles small, circular, behind them a very fine longitudinally impressed line to the base of the coxa. Pro- and mesopleuræ punctulate, a large smooth space below the insertion of the wings. Abdominal petiole shining, smooth, nearly straight below, bent above at the middle, with a longitudinal impression on each side, but without distinct carinæ; apex twice as broad as the base; spiracles barely behind the middle, second segment very finely, almost confluent punctate, following segments becoming smoother till at the tip the surface is not sculptured. Legs long and slender, the fore tibiæ swollen and greatly constricted at the base; fourth tarsal joint on all the legs very short and deeply divided for the insertion of the fifth. Wings with the stigma very narrow, radial cell narrow, as long as the cubito-discal; areolet small, scarcely narrowed above and with the second transverse cubitus less distinctly colored than its other sides; cubito-discal vein not broken; recurrent nervure received at the middle of the areolet; discoidal vein broken a short way above the middle; submedian cell shorter than the median; transverse median vein in hind wing broken well above the middle.

Independencia, Parahyba, Brazil. (Mann and Heath).

This is a very pretty species of intricate color pattern which resembles *Callicryptus* in the form of the tarsi, although it is otherwise very different. The areolet is unusually small, and recalls that of the *Mesostenini*. The color is also similar to certain *Mesostenines*, but I am quite positive that it is correctly located here.

***Mesostenoides* (?) *crassus* sp. nov.**

Female. Length 12 mm. Ovipositor one-half longer than the petiole of the abdomen. A stout species, with the general habitus of a *Cryptus*. Black, with joints 8–15 of the antennæ white above; a white median spot behind on the fifth to seventh segments of the abdomen, smallest on the fifth and largest on the seventh; legs, including coxæ bright ferruginous, the hind pair black beyond the trochanters, the middle pair beyond the knees, and the fore pair on the last tarsal joint; basal abdominal segments margined behind with rufous, especially below; wings hyaline, faintly infuscated; palpi fuscous at tips. Head broader than the thorax, nearly three times as broad as thick, arcuately excavated behind; subopaque. Front impressed and shining above the antennæ, with a fine median carina from the ocelli to the antennæ; cheeks and lower part of head behind the eyes smooth and shining. Mesonotum with distinct, sharp, but not broad parapsidal furrows which are strongly convergent behind; middle lobe scarcely elevated above the lateral ones. Scutellum slightly convex, margined at the sides of the base which is crossed by a broad, deep, longitudinally

fluted groove. Metanotum as long as the mesonotum, gradually declivous and impressed behind along the middle, the upper angles produced into sharp, pale-tipped thorn-like spines. One complete, transverse angulated carina just behind the spiracles and traces of a small median basal area. Spiracles elongate, over twice as long as broad; position of pleural carina indicated by a fine denticulate line. Surface of metanotum rugulose, with distinct transverse aciculations medially behind, its pleuræ very finely roughened. Mesopleura at the posterior margin with a grooved line which is crenate on its lower half; also with an arcuate linear impression above the center. Abdomen smooth, but opaque except on the petiole. Latter much broadened behind, the tip nearly four times as broad as the base; spiracles just before the posterior third; two carinæ above each carina which grow weaker apically; center of broadened portion longitudinally depressed. Second segment the longest, one-fourth shorter than the petiole, longer than broad at tip; following transverse. Legs stout, not much elongated. Wings with black, narrow stigma and black veins. Median and submedian cells of equal length; cubito-discal vein broken, but little angulated by a slight tubercle. Arcolet small, open, receiving the recurrent nervure near its outer angle; discoidal vein broken at the middle.

One female from Camp 39, Madeira-Mamoré R. R.

The generic reference is somewhat doubtful as the species has the stout antennæ and heavy-set body of a true member of the Cryptini. The areolet is so small, however, not closed externally, and of such characteristic Mesostenine form, that I think the species must be placed in this tribe, although it will probably find a place in a new genus.

Crypturopsis Ashmead.

There are two species in the collection obtained by the expedition, separable as follows:

1. Wings darker at tips; abdomen banded with black.....*minor* sp. nov.
Wings not darker at tips; abdomen not banded with black..*brasiliensis* sp. nov.

Crypturopsis brasiliensis sp. nov.

Male. Length 11 mm. Head and thorax black with yellowish-white markings; abdomen and four anterior legs ferruginous; hind legs black beyond the trochanter. Wings subhyaline. The pale markings are as follows. Head both before and behind, below the level of the antennæ; inner orbits to the ocelli; large spot on each side of prothorax before and small one behind; four very much abbreviated longitudinal streaks on the mesonotum behind; spot on scutellum, a spot on each side of metanotum inward from the spiracle and a larger triangular one behind on each side; tegulæ, dash beneath them; two broad horizontal stripes on mesopleura; small basal and large medial spot on metapleura; middle part of fore coxa and middle coxa (except for irregular ferrugin-

ous marks). Fore and middle legs fulvous, paler apically and with the last tarsal joint black on the fore and the last two on the middle pair. Hind coxæ and a part of their trochanters ferruginous. Abdomen ferruginous except for the blackened tip of the petiole and small black stigmatal spots on segments 2-6, becoming obsolete on the later segments. Stigma and veins black. Head as broad as the thorax, nearly three times as broad as thick, rather thin and acute above; vertex punctulate; supra-antennal impression with a median carina and a few irregular radiating lines extending from the anterior ocellus; much deeper and shining just above the antennæ. Face slightly elevated medially, confluent punctulate. Antennæ 36-37 jointed evenly tapering to the apex, basal flagellar joint three times as long as thick, those at the middle twice as long as thick, and near apex, nearly quadrate. Clypeus at each upper angle with a fovea connected with the eye by a fine black line. Mandibles black at tips; palpi pale. Mesonotum closely punctate, without parapsidal furrows although there is a broad rugulose-reticulate streak in their place and between these behind are several short longitudinal striæ. Scutellum very convex, finely punctulate, with a broad, deep fluted furrow across the base which has high raised lateral margins. Metathorax reticulate-rugose, somewhat longitudinally depressed along the median line, its spiracles oval, twice as long as wide. Basal transverse carina present on each side, but curving forward to the margin on each side before attaining the median line; sides with a shallow groove from the spiracle to the base of the coxa, lateral angles produced as blunt teeth, coinciding with the lateral angle of the triangular pale spot. Thorax seen from above, scarcely more than twice as long as wide, truncate posteriorly. Abdominal petiole longer than the metathorax, slender, smooth, the post-petiole longer than broad, with parallel sides; following segments smooth and shining, sparsely clothed with fine, fulvous hairs. Areolet very small, open apically; submedian cell slightly shorter than the median; discoidal vein broken above the middle; transverse median vein in hind wing broken at its lower fourth.

Manaos, Brazil, Mann and Baker. One male.

***Crypturopsis minor* sp. nov.**

Male. Length 9 mm. Similar to the preceding, but with less fulvous on the abdomen, and with the wings very distinctly infuscated apically and the antennæ only 31-jointed. Front before the ocelli rugulose, the median carina present. Color of head and thorax as in the preceding species, except that the post-scutellum is pale and the metathorax entirely black above except for the small rounded lateral pale tubercular teeth. The fore legs are pale yellow with the femora fulvus and infuscated at base and tip; the middle coxæ are yellow before and ferruginous behind and the apical three tarsal joints are black. The abdomen has the petiole entirely ferruginous and the post-petiole narrowed behind, while the following segments are black, with fulvus apical bands. Median and submedian cells of equal length. Otherwise as in *C. brasiliensis*, with the thoracic spots all somewhat smaller.

One male from the Rio Madeira (Madeira-Mamoré R. R. Camp 39), Brazil, Mann and Baker.

These are the first two South American representatives of the genus to be discovered, although three have been described from North America by Ashmead. Only one of these, *dyari*, is known in the female sex.

***Cryptanura uniformis* sp. nov.**

Male. Length 12 mm. Head, thorax, and antennæ black, with white ornamentation; legs and abdomen, except part of petiole, bright ferruginous. The white markings are as follows; annulus of 6-7 segments on antennæ; clypeus except lower and side margin, face, wide anterior orbits, broad stripe behind eye, and palpi; prothorax with an elongate spot on each side above and below; mesonotum with a round spot on the middle lobe behind the tegulæ; elongate spot at side of scutellar fovea, scutellum and post-scutellum with side lines from each; metanotum with four broad longitudinal stripes on posterior half and a large spot at anterior angles; mesopleura with spot beneath wing and an elongate spot below; mesosternum with an elongate spot on each side. The legs also bear white on the anterior coxæ which are white in front and black behind, while the ferruginous middle coxæ are whitish in front. The ferruginous color is very uniform except that the anterior four legs and hind tarsi are more nearly fulvous. The apical joints of tarsi and the enlarged part of the abdominal petiole are piceous. The head is rather finely punctate on the face and clypeus, and the front bears two small spines above the antennæ; ocelli rather large, the posterior pair closer to one another than to the eye margin; eyes showing a very slight pubescence. Mesonotum deeply and sparsely punctate medially, nearly smooth on the sides, scutellum at the base with a very deep quadrate depression that is longitudinally striated. Metathorax with a complete transverse carina, joining a complete pleural one, and with a basal median and lateral area partly enclosed. Metathorax rugose-reticulate over its entire surface, more coarsely so behind, its spines long, slender, erect. Pro- and mesopleuræ smooth and shining, except for longitudinal striations below on the propleura and mesopleura. Mesopleura with a round impression medially behind, and rugose near the base of the coxa. Hind coxæ punctate near base. Petiole of abdomen very highly polished with a deep groove along the side passing below the spiracle which is situated just before the apical third of the petiole; following abdominal segments smooth, impunctate. Wings hyaline, infuscated at extreme tip; veins black, areolet very incompletely closed, the outer vein nearly hyaline. Submedian cell slightly shorter than the median; discoidal nervure inserted at the middle of the second discoidal cell; transverse median vein of hind wing broken at its lower fourth.

Described from a male taken by Mr. Wm. M. Mann, at Ceará-Mirim, Rio Grande do Norte, Brazil.

The present form approaches *C. hyalina* Brullé, which it resembles almost exactly in color, but the sculpture of the metanotum is very different.

***Cryptanura striata* Brullé.**

Hist. Nat. Ins., Hyménop. Vol. 4, p. 244 (1846).

There is a male from Manaos (Mann and Baker) which appears to be this species, although differing from the female described by Brullé in having a short whitish stripe anteriorly on the inner edge of the lateral lobe of the mesonotum. The metanotal spines are blunt and the median metanotal stripes are abbreviated in front. The mandibles bear a large pale spot externally.

***Polycyrtus histrio* Spinola.**

Ann. Soc. Ent. France, Vol. 9, p. 155 (1840).

Brullé, Hist. Nat. Ins., Hyménop. Vol. 4, p. 214 (1846).

There are two males of this species from Manaos (Mann and Baker).

***Ophiogastrella* Gen. nov.**

Clypeus not pointed, truncate on the anterior margin. Eyes deeply, angularly emarginate on the inner margin. Face without a tooth, but with a faint cariniform tubercle just below the antennæ. Ocelli very large. Head strongly transverse, narrowed behind the eyes, the vertex not margined behind, although the temples and cheeks are distinctly margined. Mesonotum without furrows or parapsidal impressions at the anterior margin. Metathorax short, abruptly declivous; smooth, finely punctulate, entirely destitute of carinæ. Tarsal claws small, pectinate. Basal section of radius straight, not thickened; last section recurved. Submedian cell barely shorter than the median. Discoidal nervure arising at the upper fourth of the second discoidal vein. Disco-cubital vein very strongly bent, but not broken; its basal and apical portions running very nearly at right angles to each other. Cubito-discoidal cell without any dark chitinized spots. Transverse median vein in hind wing broken at its lowest fourth; the first section of the radius in this wing nearly twice as long as the recurrent nervure. Abdomen strongly compressed, very slender at the base, the first segment longer than the second, its spiracles placed at the apical third.

Type. *Ophiogastrella maculithorax* sp. nov.

This genus is related to *Pseudanomalon* Szépligeti, but differs in several important characters, particularly the form of the metathorax, which is neither elongate between the hind coxæ nor rugose-reticulate. From other related genera it differs

by the position of the discoidal nervure (*Banchogastra*) and by the absence of a transverse carina on the metathorax (*Pycnophion et al.*).

***Ophiogastrella maculithorax* sp. nov.**

Female. Length 7-8 mm. Head, thorax and legs pale yellow; metathorax, antennæ at base and abdomen fulvus; remainder of antennæ and indistinct stains at anterior angles of metanotum more or less piceous; a large spot enclosing the antennæ and three broad longitudinal stripes on the mesonotum, deep blue-black. Of the mesonotal stripes, the lateral ones are abbreviated just before the anterior margin, and the median one extends from the anterior margin to just beyond the middle. Head smooth and shining; maxillary palpi slender, with the apical four joints subequal; face much narrowed below and the front above, by the eyes; the latter bare, almost attaining the base of the mandibles. Ocelli forming an equilateral triangle, separated by nearly their own diameter, the lateral ones very close to the eye margin. Entire thorax and pleuræ shining, smooth and polished, except for very fine punctulation on the mesonotum and metathorax. Mesopleura with a moderately distinct punctate impression medially. Abdomen very slender to the base of the third segment, then strongly enlarged and compressed; first segment slightly longer than the second; third, fourth, fifth and sixth subequal, each one-fourth shorter than the second; following segments very short. Ovipositor one-third shorter than the third segment. Wings hyaline, veins piceous, stigma fuscous. Legs very long and slender, tarsal claws small.

Described from three females, collected at light by Mann and Heath. Independencia, Parahyba, Brazil.

This is a small, slender species easily recognized aside from its structural characters, by the striking maculation of the mesonotum.

***Ophionellus* Westw.**

Thesaur. Entom. Oxon., p. 128, Pl. 24, figs. 3, 3a, 3b, 3c. (1874).

Mr. Mann obtained a specimen of this remarkable genus which represents a species different from *O. fragilis* Westwood, the type of the genus. It agrees very closely with Westwood's species and is surely congeneric, but on comparing it with Cresson's *Pharsalia virginienensis*, I find that the latter is generically distinct, although the two genera have been regarded as synonymous.

The more salient differences may be tabulated as follows:

Pharsalia Cress. Sides of head behind the eyes rounded; antennæ short, filiform, about 25-jointed, but little longer than the head and thorax; anterior wing with a distinct, although small stigma.

Ophonellus Westw. Sides of head with a large tooth-like projection behind each eye; antennæ long, setaceous 40-50 jointed, nearly twice as long as the head and thorax; costa in anterior wing without thickening to form a stigma.

In addition to these differences the radial cell is much larger in *O. manni* than in *P. virginiensis*. The hind tibiæ bear two apical spurs in each case, not one as is stated by Szépligeti, although there is only a single one on the middle tibia.

Ophonellus manni sp. nov.

Female. Length 20 mm. (extended). Black, the face, clypeus, cheeks and mandibles, except teeth, yellowish-white. Fore coxæ and base of trochanters pale yellow, as are also the middle coxæ beyond the middle; fore legs rufous, slightly darker toward the knees, and paler on the base of the tarsi; middle tarsi pale on base of first joint; last segment of abdomen testaceous below. Head smooth above on the sides but rugose medially; above the antennæ with a deep depression which includes the median ocellus; face much narrowed below, only half as wide at the base of the eyes as at the antennæ, its surface shining and finely punctulate. Eyes pubescent; oval, nearly twice as long as wide. Head behind shining, punctulate, densely griseous pubescent on and about the tooth-like projection behind the eye. Head behind highly polished, margined. Ocelli large, in an equilateral triangle. Antennæ long and slender, 35-jointed; the first flagellar joint as long as the two following, rest gradually decreasing in length, those near the middle nearly three times as long as thick. Pronotum not visible from above, mesonotum much narrowed anteriorly. Its surface shining, reticulate, the carinæ forming quite regular transverse rectangular areolæ posteriorly. Scutellum sloping in a plane with the metathorax, flat, with a distinct large impression anteriorly. Metathorax long and strongly declivous, projecting considerably beyond the hind coxæ and bifurcate at its tip where the abdominal petiole is inserted. It is densely covered with very short silvery pubescence, but shows a distinct median groove and a lateral carina extending for its entire length. Besides these the surface is distinctly, but not sharply reticulated, the areolæ rectangular and transverse above and more or less polygonal on the sides. Pleuræ densely silvery like the metathorax except for the narrow smooth propleura and for a deep linear depression extending from the middle coxa to the tegula. This groove is coarsely reticulated. Abdomen very slender, the petiole as long as the entire length of the thorax above, swollen on the apical two fifths where the spiracles are placed; its surface smooth and shining, the remainder of the abdomen dull; second segment as long as the first; third, half as long; fourth almost equalling the second; fifth equalling the second; sixth, seventh and eight short, decreasing in length; ovipositor as long as the third segment. Wings perfectly hyaline; radial cell as long as the cubito-discal cell, the second section of the radius and the transverse cubitus interstitial; second discoidal cell as high as long above, narrowed behind; costa

without a stigmal thickening; costal vein extending beyond the radial cell for half its length. Hind wing with a single subcostal cell, and the same continuation of the costal vein. This costal projection and the costal vein in the anterior wing black, but otherwise the venation is pale fuscous.

Described from one female collected by Mann and Baker on the Rio Madeira, Brazil, Camp 39, Madeira-Mamoré R. R.

This species differs from *O. fragilis* Westw. the only other described member of the genus, by the absence of a median groove on the mesonotum and by the entirely black tibiae. The second discoidal cell is also much shorter than the form represented by Westwood's plate.

Family BRACONIDÆ

Subfamily HELORIMORPHINÆ

Helorimorpha brasiliensis sp. nov.

Male. Length 4 mm. Entirely honey yellow, except the space between the ocelli, the entire antennæ, (except the 16th and 17th joints which are rufous) the apical fourth of the hind tibiae, the hind tarsi and the apical joint of the other tarsi which are black. Wings deeply infuscated, blackish; with black stigma and veins. Head twice as wide as thick antero-posteriorly, smooth except for fine punctulation on the face and clypeus and still finer on the head above. Eyes small, nearly circular, one half longer than the malar space. Front with a sharp median carina extending from the upper part of the face nearly to the ocelli; strongly excavated above the base of each antenna. Ocelli small, close together in a triangle, separated by only their own diameter. Maxillary palpi slender, pale testaceous; 5-jointed, with the basal joint very short. Antennæ black, with the 16th and 17th joints distinctly rufous; scape nearly as long as the first flagellar joint and twice as long as the pedicel; third joint as long as the scape, swollen apically; following joints becoming shorter and distinctly moniliform by the middle of the flagellum, where they are only half longer than thick; again toward the tip the joints become much more slender and lose their moniliform shape. Thorax pitted and reticulate as in other species of the genus, the meta-thorax deeply excavated medially on its posterior face. Abdomen slender, as long as the head and thorax; petiole curved near its apical third; very slender, but distinctly broadened toward tip both in dorsal and lateral view; spiracles at the posterior third; base not striated. Second segment covering all the remaining parts of the abdomen, smooth and highly polished; narrowly ovate; one third as broad as long and slightly higher than broad; much more strongly curved below than above. Legs formed as in the other species. Wings with the radius arising perpendicularly from the middle of the stigma, the latter nearly half as broad as long; second section of radius nearly half as long as the first and as long as the hyaline second transverse cubitus. Recurrent nervure joining the upper side of the second cubital cell in a straight

line and the lower side originating at the same point so that the cell is thus three-sided. Submedian vein bordered by a hyaline streak as in *H. fisheri*.

One male collected by Mann and Baker; Manaos, Brazil.

This species is very similar to *H. fisheri* Viereck from eastern North America, and aside from the form of the antennæ and wing venation differs only in its color characters. Mr. Mann's discovery of the Brazilian form is very interesting as the first representative of the genus was discovered in 1907 by Schmiedeknecht in Europe. Shortly afterwards it was found to occur in North America.

The four species so far described may be separated as follows:

- | | |
|--|----------------------------------|
| 1. Wings infuscated; body yellow..... | 2 |
| Wings hyaline; at least head black..... | 3 |
| 2. Scape of antennæ yellow; flagellar joints twice as long as thick..... | |
| <i>H. fisheri</i> Viereck | |
| Antennæ entirely black, except joints 16 and 17; flagellar joints near middle of antennæ less than twice as long as thick..... | <i>H. brasiliensis</i> sp. nov. |
| 3. Body entirely black..... | <i>H. egregia</i> Schmiedeknecht |
| Body, except head, yellow..... | <i>H. melanderi</i> Brues |

Subfamily MICROGASTRINÆ

Mirax brasiliensis sp. nov.

Female. Length 2.2 mm., ovipositor as long as the head-height. Head and thorax pale honey-yellow, abdomen somewhat lighter; legs whitish-yellow; antennæ fuscous beyond the second joint; wings hyaline, with pale testaceous stigma and veins. Head transverse, twice as wide as thick, rounded on the temples behind the eyes; ocelli in an equilateral triangle, the space between them one third as great as that between the lateral ones and the eye margin. Front excavated on each side above the antennæ, the depressions separated by an elevated triangular space that extends down to the level of the antennæ. Face smooth; elevated medially, broadly so below and narrowly so above where the median line is almost carinate. Clypeus separated by a depressed line and with a large circular fovea on each side, its lower edge projecting but straight in front view. Mandibles black at tip, with two small teeth at apex. Antennæ 14-jointed, as long as the body, tapering; scape short, but little longer than the pedicel which is slightly more than half as long as the first flagellar joint; joints beyond growing very gradually shorter, none less than two and one half times as long as thick. Eyes elongate-oval, much narrower below; malar space very short, with furrow. Mesonotum with crenulate furrows on its anterior half; sharply narrowed in front of the tegulæ. Scutellum long, with parallel sides behind, but widened in front, its base with a curved, deep, linear impression which is crossed on its bottom by numerous carinæ. Metanotum irregularly areolated; with a median carina that bifurcates behind, a straight transverse carina behind, and a curved carina on each side at the base

which marks off a large squarish space at each lateral angle, and with a lateral carina which passes just outside the round spiracle. Mesopleura with a carina along its posterior edge. Abdomen sessile, as long as the head and thorax. First segment with a L-shaped shining elevated portion; the latter swollen anteriorly and widened laterally along the margin of the segment; remainder of the segment paler, whitish; second segment twice as broad as long, longitudinally striated, also pale; following segments shining and smooth, fully colored. Ovipositor ferruginous, its sheaths broad, pilose, piceous with pale yellow bases. Legs moderately stout, blackened on the tips of the tarsi. Wings with broad stigma that is produced apically into a long, narrow point; marginal cell entirely wanting; submedian cell longer than the median by the length of the transverse median vein; recurrent nervure received at the apical fourth of the first cubital cell; second cubital wanting, except for a short stump of a vein that indicates its lower basal corner; subdiscoidal vein wanting. Hind wing with only the median and submedian cells, the latter less than half as long as the former.

One female, Ceará-Mirim, Rio Grande do Norte, Brazil (W. M. Mann).

This is possibly not congeneric with the type of *Mirax* on account of its parapsidal furrows, although otherwise similar.

Subfamily CHELONINÆ

***Chelonus brasiliensis* sp. nov.**

Female. Length 3 mm. Black; the antennal scape, mandibles, anterior legs, including most of their coxæ; trochanters, tip of femora and basal half of hind tarsi dull fulvous-yellow; palpi, tegulæ and four posterior tarsi whitish yellow. Wings subhyaline; stigma black; veins piceous, lighter brown toward the base of the wing. Head transverse, twice as broad as thick, and very short behind the eyes; finely confluent punctate on the vertex, transversely rugulose on the front and face; head behind and cheeks smooth, scarcely punctulate. Eyes oval, thickly clothed with pale pubescence, nearly twice as long as broad; malar space half the width of the eye. Ocelli in a small triangle, the posterior ones closer to one another than to the eye margin. Antennæ in a deep depression; 19-jointed, the scape subcylindrical, curved, as long as the first two flagellar joints together; first flagellar joint nearly three times as long as thick, the following becoming gradually shorter and thinner, the subapical one quadrate. Clypeus separated from the face by a sharp suture, with a foveate puncture near each side; arcuately rounded on its anterior margin; palpi normal, pale yellowish. Mesonotum and scutellum rugose-punctate, the parapsidal furrows and a scutellar margin more or less distinctly indicated by a series of larger, more regular punctate impressions. Scutellum, aside from its basal strip, nearly triangular. The basal strip sculptured across its entire extent by a series of large squarish foveate impressions. Metanotum short, declivous, rugose reticulate with several somewhat irregular areas behind. Abdominal carapace oval, rather coarsely rugose anter-

iorly; very finely so posteriorly; rounded behind. The apical opening oval twice as broad as high. Pleuræ rugose-reticulate, more coarsely so behind. Legs very stout, especially the hind pair. Stigma broadly oval, over half as broad as long, emitting the radius just beyond its middle; parastigma distinct, fuscous. Radial cell short, the postmarginal vein no longer than the stigma; length of first, second and third sections of the radial vein in the proportions of 2, 3 and 7. Submedian cell longer than the median by the length of the first section of the radius; recurrent nervure interstitial with the first transverse cubitus which it equals in length; discoidal vein broken near its lower end.

Natal, Brazil. One specimen collected by Mr. W. M. Mann. This is the first South American species to be described.

There are two other specimens, somewhat smaller and with darker legs, from Independencia, which may possibly represent another species, but structurally, there are only slight differences.

***Phanerotoma trivittata* sp. nov.**

Male. Length 5 mm. Buff-colored, the abdomen paler, almost cream-colored; head above and hind femora yellowish; first joint of antenna fuscous, the flagellum pale ochreous yellow. Marked with black as follows; tips of mandibles, a dumb-bell shaped spot between the ocelli; an elongate spot on the mesonotum anteriorly, a longitudinal stripe on the parapsides; scutellum; spot on mesopleura below base of wing; spot before tip of all femora; anterior and middle tibiæ, except base; extreme base and apical third of posterior tibiæ. Wings yellowish at base with yellow veins and stigma; apically subhyaline, with fuscous veins, stigma slightly mottled with fuscous. Head one half broader than thick, arcuately rounded behind the prominent eyes; vertex finely rugose, the ocelli close together, the hind ones five times as far from the eye as from one another. Front just above the antennæ with a margined depression which includes the anterior ocellus and bears a fine raised median line that extends halfway down the face; face finely rugose. Antennæ 23-jointed, tapering; as long as the body; scape almost cylindrical, as long as the first flagellar joint which is four times as long as thick; following gradually growing shorter, at middle of antenna three times as long as thick. Eyes bare, cheeks with an indistinct malar groove half as long as the diameter of the eye. Head behind finely punctulate. Mesonotum faintly rugulose, with feebly impressed parapsidal furrows. Scutellum triangular, longitudinally rugulose, the thoracic dorsum longitudinally striated on each side of the scutellum. Metanotum rugulose, exareolated, the upper hind angles produced into short blunt teeth. Abdomen as long as the thorax; three segmented, the third segment longest; first a little shorter and second still shorter; its upper surface longitudinally rugose-aciculate, less distinctly so on the third segment; first segment with a carina arising at the anterior angle, slanting toward the median line and fading out at the middle of the segment. Apex of abdomen rounded. Pleuræ faintly roughened. Hind legs much thickened, others slender. Wings

with the submedian cell longer than the median; subdiscoidal vein arising near the lower angle of the second discoidal cell; recurrent nervure inserted near the base of the second cubital cell; second section of the radius a little longer than the first; second transverse cubitus half as long as the first.

Manaos, Brazil (Mann and Baker).

This species is very distinct on account of the disposition of its peculiar pale color and sharp black maculation.

Subfamily CENOCELIINÆ

Cenocœlius tricolor sp. nov.

Female. Length 9 mm., ovipositor 7 mm. Head above the level of the antennæ, spot above hind coxa, four posterior legs and abdomen above, except on the sides, black; remainder of head and thorax honey-yellow except the metanotum behind which is whitish, and also the anterior legs, except most of the femora and the apical tarsal joint. The abdomen is maculate with yellowish white as follows: hind angles of petiole; a band along each side of segments 3-7 which extends inwards half way to the median line along the sutures; these incisures narrow and pointed except at the base of the third segment where they form a broad, widely interrupted transverse basal band. Sides of abdomen whitish; ventral plates black. Wings blackish with a hyaline streak crossing at the insertion of the recurrent nervure. Head twice as broad as thick, arcuately emarginate on the occiput; vertex with a deep median depression extending down the front to the base of the antennæ. The median ocellus lies at the bottom of the depression and the lateral ones on the edge, a carina extending downward from each to the level of the antenna; sides of front and face sparsely punctate; middle of face confluent so; clypeus punctate like the face. Eyes small, rounded oval, as long as the malar space. Posterior edge of head with a high raised margin. Antennæ 32-jointed; scape cylindrical, three times as long as thick; first flagellar joint slightly longer than the second which is three times as long as thick; joints near the middle twice as long as thick. Mesonotum with coarse punctate parapsidal furrows, the middle lobe prominent, twice as long as the lateral ones and prolonged backward between the convergent furrows as a raised line. Scutellum with a broad impressed line at the base composed of four large foveæ. Metathorax above irregularly reticulate; behind and on the sides rugose reticulate. Propleura sparsely punctate; mesopleura smooth with a crenulate mesoëpisternal furrow, a carinate posterior margin and several foveæ above. Abdomen polished; first segment one-third as broad at base as at apex, longer than the width at apex (exclusive of the white corners); with a number of curved carinæ on each side of a median smooth space, the median pair of carinæ attaining the base and the lateral pair the apex of the segment; second segment more closely striated except around the edges and on a median stripe which is smooth and slightly elevated into an obsolete tubercle anteriorly; following segments smooth and highly polished. Legs

stout, thickly hairy on the tibiæ and tarsi, sparsely so elsewhere. Stigma lanceolate, black; second section of radius one-half longer than the first and one-third the length of the third; second cubital cell narrowed above, its tip one-half as high as its base; recurrent nervure received at the apex of the first cubital cell; submedian cell longer than the median; subdiscoidal vein arising from the apex of the discoidal vein, the second discoidal cell narrowly open at this point; first section of cubitus straight; submedian cell in hind wing two-thirds as long as the median.

One female from Camp No. 28, Madeira-Mamoré R. R. Co., Rio Madeira, Brazil (Mann and Baker).

This species will be easily recognized on account of its striking color.

Subfamily BRACONINÆ

Binarea calida sp. nov.

Female. Length 13 mm., ovipositor 11 mm. Black, ferruginous and fulvous; wings yellowish with fuscous tip and a median transverse piceous band. Black as follows; head, antennæ, prothorax except hind part of pleuræ; mesosternum and large blotch on mesopleura; hind legs with coxæ, spot on hind femora above at base, knees, stripe on outer side of tibiæ and entire tarsi; apical joint of fore and middle tarsi; abdomen beyond third segment (the fourth fuscous) and ovipositor. Thorax otherwise ferruginous, and the legs and abdomen fulvous. Wings with the venation pale fuscous on the clear parts, black elsewhere; stigma black, rufous below apically. Wing tip fuscous from just beyond the second transverse cubitus, the dark cross-band embracing the basal half of the first cubital cell and the apical half of the first discoidal; fore wing also with a hyaline spot in the radial cell and a large one behind the second cubital cell. Hind wing fuscous beyond the base of the radial cell. Head one-fourth broader than long, entirely smooth above; face irregularly rugose, slightly elevated into an indistinct tubercle medially which is more finely rugose; just below each antennal tubercle a short deep groove meets the one of the opposite side to continue upwards between the antennal tubercles. Malar space and cheeks sparsely punctate. Eyes nearly round, twice as long as the malar space. Antennæ long and slender, the joints not distinctly separated; scape and pedicel fringed at tip with ferruginous hairs as in *B. spinicollis*. Palpi pale yellow, the lower side of the head clothed with long buff-colored hairs. Pronotum margined in front; medially behind with a short blunt spine or tooth; prothorax below near the middle with a sharper thorn-like tooth on each side and a second conical elevation or tooth on the anterior margin further forward. Prothorax smooth above and on the sides, finely and densely punctate below. Mesonotum with the middle lobe twice as long as the lateral ones, the parapsidal grooves deep, but impressed only anteriorly. Scutellum immargined, with two large deep, quadrate depressions at the base. Metathorax with a median furrow, more distinct anteriorly and with a large, deep impression behind on each side of the middle. Thorax

smooth except the metapleuræ which are sparsely punctulate. Pro- and metapleuræ thinly clothed with pale hairs. Metathoracic spiracles small, elongate oval. Abdomen as long as the head and thorax together; its surface shining, impunctate. First segment scarcely widened apically, twice as long as broad at tip, the median portion raised and carinate laterally at the base; toward each side with a carina separated from the median elevation by a broad smooth groove and from the extreme lateral edge by a linear furrow. Second segment fused with the third, but the suture indicated medially by a broad crenulate furrow; anteriorly with a trifoliate elevation consisting of a narrow pointed median elevation and lateral ovate elevation; sides of second segment separated from the median part by a longitudinal impressed line and from the base of the third by an oblique impressed line. Third segment with a small lozenge-shaped tubercle medially at the base, on each side of which is a large, faintly raised elevation; anterior angles also slightly elevated into a rounded convexity. Following segments not sculptured. Legs stout, the hind pair considerably thickened; fore tarsi distinctly more than twice as long as their tibiæ, each of which bears along its front side a series of five short, stout fuscous spines or thorns. Tarsal claws large, simple, wings with the submedian cell longer than the median by one-fifth the length of the basal vein; recurrent nervure received at the apical sixth of the first cubital cell; discoidal nervure arising at the posterior angle of the second discoidal cell. Submedian cell in hind wing more than half the length of the median; radial cell divided by a cross-vein.

One female from Abuná, Rio Madeira, Brazil, Mann and Baker.

This species differs from *B. spinicollis* Brullé, the only species hitherto described, by its entirely red mesonotum, red middle coxæ, and the much greater amount of black on the abdomen. Brullé does not mention the second pair of teeth on the margin of the prothoracic pleuræ, nor the spines on the anterior tibiæ. These may be present in his species, but it does not seem possible that he could have overlooked both these striking characters.

Parabinarea Gen. nov.

Similar to *Binarea* Brullé, but differing by the presence of three spinose tubercles on the pronotum, the absence of tubercles on the propleuræ, the structure of the metathorax, which is covered with flat, circular impressions, and the aciculate sculpture of the first two abdominal segments.

Head nearly quadrate, strongly rounded off behind and excavated on the occiput; with a large shallow impression above the antennæ which are long slender and many jointed. Pronotum with a pair of spinose tubercles near the anterior margin, and with a single median one behind. Propleuræ convex, not tuberculate. Mesonotum with deep

parapsidal grooves, the median lobe extending far forward of the lateral ones; scutellum flat, with a pair of large foveæ at its base; postscutellum produced into a minute spine or tubercle. Metathorax not areolated, but covered with well-separated rounded shallow impressions above. Along the median line there is an indistinct carina with a series of these impressions on each side, then a narrow smooth space reaching back to the middle of the segment, followed by a lateral area of impressions. The metapleuræ are smooth above and very coarsely reticulate below; apex of metanotum with three deep impressions. Mesopleura smooth, separated from the metapleura by a deeply impressed line composed of large foveate punctures. Thorax as a whole long and somewhat flattened. Abdomen as long as the head and thorax; first segment but little widened behind, carinate; second and third tuberculate; first two segments longitudinally aciculate; second and third fused. Ovipositor long. Legs stout, the fore tibiæ in front with a series of five short, thorn-like spines. Tarsal claws small, simple. Wings as in *Binarea*, the submedian cell longer than the median; radial cell in hind pair divided by a cross-vein.

Type: *P. manni* sp. nov.

This is a most remarkable form on account of the peculiar sculpture of the metanotum. It is very clearly related to *Binarea*.

***Parabinarea manni* sp. nov.**

Female. Length 8-11 mm., ovipositor 7-8 mm. Fulvous and black, the wings yellowish, bifasciate with black. The fulvous color is distributed as follows; tegulæ; entire metathorax; first four segments of abdomen and often fifth, except for spot in front and a band behind; fore coxæ almost entirely; anterior and middle legs, except tips of last tarsal joint; hind legs on second joint of trochanters, basal four-fifths of femora, and basal third of their tibiæ. Palpi pale yellow. The apex of the hind wing, and that of the fore wing beyond the basal fourth of the third cubital cell is black, and the black cross-band on the fore wing embraces the stigma and wing from the origin of the cubitus to the origin of the radius; there is a faint oblique hyaline streak in the first cubital cell and a hyaline spot below the insertion of the recurrent nervure. Head smooth above, the frontal depression immargined, shallow, almost surrounding a small elevation which bears the closely approximated ocelli. Face finely rugose at the middle, very coarsely so on the sides, the furrow between the antennal tubercles not extending down onto the face. Cheeks finely punctulate, malar space two-thirds as long as the diameter of the eye. Head behind punctulate and sparsely clothed with long white hair which is also present on the orbits, clypeus and sides of the face. Palpi long and slender. Pronotum above impunctate; pleuræ punctate, with an oblique carina for their entire length. Triangular part of pronotum that extends toward the tegulæ separated from the collar by an oblique impression that bears a number of raised cross-lines. Mesonotum smooth, the parapsidal furrows strongly convergent, not reaching the scutellum, but continued

to the latter as a pair of *raised* lines. Scutellum with a pair of large quadrate depressions at the base separated by a fine median raised line. Mesopleura elevated along its upper edge and near the upper anterior angles, and with an oblique impressed groove (larger behind) below. Metathorax as described in the generic diagnosis, its lateral angles slightly toothed. Abdomen as long as the head and thorax together; first segment but little widened apically, the central raised portion bordered by lateral carinæ and with a pair of converging carinæ on its disk, on the sides with a carina above the lateral margin; its surface coarsely aciculate except at the base of the median lobe. Second segment with a pair of approximate rounded elevations behind and with a deep moderately oblique groove from each anterior angle which defines a triangular lateral piece. Third segment tuberculate, raised in front on each side of the middle and also at the anterior and posterior angles; following segments smooth. Legs stout; fore tarsi twice as long as their tibiæ; hind femora much thickened, less than four times as long as broad. Wings with lanceolate stigma which is black before the origin of the radius, and pale brown beyond; veins dilute fuscous, piceous under the black markings; submedian cell longer than the median by one-third the length of the transverse median vein; recurrent nervure received at the apical sixth of the first cubital cell; discoidal nervure arising at the posterior angle of the second discoidal cell. Hind wing with the submedian cell two-thirds as long as the median; the resurgent nervure distinct.

Four females from Abuná, Rio Madeira, Brazil, collected by Mann and Baker.

***Cervulus nodicornis* (Brullé).**

Hist. Nat. Ins. Hyménop. IV, p. 408. (1846) (*Bracon*).

Mr. Mann obtained a female of this species at Baixa Verde, Rio Grande do Norte. It agrees well with Brullé's description, except that it is a trifle smaller (12 mm. ovip. 6.5 mm.) and the vertex is rufous like the rest of the body.

***Bracon paraensis* sp. nov.**

Female. Length 4.5 mm., ovipositor 1.4 mm. Honey-yellow marked with black, paler on the lower parts of the head and abdomen below. The following parts are black: antennæ; broad bands on the second, third, fourth and fifth segments, all of equal length and crossing the fifth segment completely but leaving broad pale lateral spaces on the more anterior segments; sixth segment entirely; ovipositor sheaths, apical joint of four fore tarsi; and hind legs beyond the trochanters, although with the knees and tarsal articulations yellowish. Wings deeply infusated, more strongly so at the base. Head two and one-half times as broad as thick, rapidly narrowed behind the eyes and not excavated behind. Vertex smooth, ocelli equidistant, separated from one another by their own diameter. Front shagreened medially, with a central finely impressed line above the antennæ to the ocelli. Antennæ

37-jointed; scape short, obliquely truncate at tip, less than twice as long as thick; flagellar joints all about one-half longer than broad, the first longer, twice as long as thick. Face smooth, with a slight convexity below the antennæ. Clypeus deeply impressed along its upper margin and with the lower edge narrowly reflexed. Head behind smooth, cheeks sparsely punctulate. Palpi slender. Eyes four times as long as the malar space. Mesonotum not noticeably trilobed; parapsidal furrows distinct, complete, scarcely convergent posteriorly; its surface smooth and shining. Scutellum nearly flat anteriorly, with a transverse crenate furrow across the base. Metanotum with a very much abbreviated median carina posteriorly which is continued in front as a very finely impressed line. Pleuræ shining; mesopleura with a small median circular impression. Metapleura with a deep horizontal sulcus just below the small circular spiracle. Abdomen short, ovate. First segment with a pair of divergent grooves that define a triangular elevation medially on the segment behind. Second segment with a pair of small oval, very deep and sharply defined impressions anteriorly near the median line and also on each side with a much more feebly impressed and irregular longitudinal depression. Third segment on each side basally with a somewhat oblique transverse impression that does not reach the lateral margin however; fourth and fifth segments with similar transverse impressed grooves at the middle of the segment, these are not oblique and reach the sides of the abdomen, simulating additional intersegmental sutures. Legs slender, sparsely clothed with pale testaceous hairs as is the entire body in an irregular way. Wings with the stigma lanceolate, black, as are also the veins. First section of the radius as long as the width of the stigma; second segment twice as long; second cubital cell with parallel upper and under sides, the first transverse cubitus very oblique and the second vertical; recurrent nervure received just before the tip of the first cubital cell.

One female collected by Mr. Wm. M. Mann at Pará, Brazil.

In general appearance this is very much like the nearctic *Microbracon mellitor* and its allies, but the sculpture of the abdomen is of an entirely different type.

***Iphiaulax xanthothorax* Brullé.**

Hist. Nat. Ins. Hyménop., Vol. IV, p. 393 (1846). (*Bracon*).

There is a female from Porto Velho, Rio Madeira, Brazil, which agrees well with Brullé's description. The specific name is evidently intended to be *xanthothorax*, but the spelling given above appears in the original.

***Bracon crassitarsis* sp. nov.**

Female. Length 10–11 mm.; ovipositor 7–7.3 mm. Pale ferruginous with head, most of legs and abdomen beyond fifth segment, black; wings blackish, yellow at base. The black is as follows; head except base of mandibles and tip of last palpal joint; antennæ; prothorax, except upper hind angles; metathorax; fifth abdominal segment (some-

times in part); all following segments; ovipositor and its sheaths; legs, except anterior knees and four basal joints of anterior tarsus; the middle tarsi brownish on first four joints. The wings have the stigma black and are strongly infuscated beyond the basal vein, though pale yellowish toward the base. Head nearly twice as wide as thick, rounded and narrowed behind the eyes. Front above the antennæ with a deep depression that is divided by a fine, sharp median carina; antennal tubercles rather short. Face finely rugose, faintly reticulate, with a vertical raised line extending from each antennal tubercle to the clypeus and a second near to the eye. Clypeus crescentic, margined above by a fine line and fringed below with a brush of porrect pale yellow hairs. Eyes large, oval, fully five times as long as the malar space. Antennæ a little shorter than the body; scape as long as the width of the eye, broadened apically; first flagellar joint nearly twice as long as wide; second not quite half longer than wide; following nearly quadrate. Mesonotum with the parapsidal furrows impressed anteriorly, convergent. Scutellum with a smooth impressed line across the base. Metathorax smooth and polished; sparsely punctulate on the sides. Abdomen elongate, as long as the head and thorax, and but little wider; raised median portion of first segment narrowed in front, but attaining the base of the segment; close to it on each side is a carina. Second segment with a small median tubercle in front, on each side of which is a foveate depression, without lateral carinæ or separated corners; its suture with the simple third segment smooth. Third segment the longest, nearly half as long as broad. Mesopleura with the femoral furrow narrow; the metapleural depression rather deep and lying just outside the elongate reniform spiracle. Legs stout, the tarsi much shortened and flattened, especially those of the middle and fore legs; clothed with sparse, glistening pale hairs, denser on the tibiæ and black on the hind ones. Wings with the stigma lanceolate; submedian cell as long as the median; first section of cubitus strongly curved so that its base runs nearly parallel for a short distance, its origin being at the upper third of the basal vein; recurrent nervure received at the apical fifth of the first cubital cell; first section of radius one-third as long as the second and two-thirds as long as the first transverse cubitus; second transverse cubitus slightly oblique, with a hyaline spot near its top and bottom; discoidal vein broken at its lower third.

Male. Length 9 mm. In this sex the anterior tibiæ are almost entirely fulvous; the second trochanters of the fore and middle legs are ferruginous and the first four joints of the middle tarsi are yellowish. The tarsi are not thickened and their pile is dark, except on the anterior pair. Palpi entirely pale. The black on the fifth abdominal segment is also more extensive, covering the surface except on the sides and the posterior edge.

Five specimens, four females and one male from Rio Madeira, Brazil (Camp 39, Madeira-Mamoré R. R.) Mann and Baker.

This is a very distinct species on account of the peculiar form of the tarsi in the female and the conspicuous color pattern.

Bracon thalessiformis sp. nov.

Female. Length 18 mm.; ovipositor 55 mm. Black, with most of the thorax and the first segment of the abdomen pale ferruginous. Wings blackish, with a pale band before and another after the middle. The ferruginous thorax has the prothorax black, except on its posterior third and the metathorax is blackish medially, in addition to a triangular black spot on each side before the hind coxa. The second abdominal segment is tinged with brown and ferruginous along the sides and the venter is colored almost as the dorsal aspect. The fore wing is black at the base, becoming paler to the end of the submedian cell, when it is black to the base of the radial cell, then pale through most of the second cubital and finally blackish beyond to the tip. The hind wing is blackish, with an incomplete pale band at the middle. Head scarcely wider than thick, sharply excavated behind at the middle of the occiput, the face receding so that it is almost horizontal. Eyes small, round, removed by their own diameter from the base of the mandibles; surface smooth and polished above and behind, sparsely punctulate on the cheeks. Face subshining, closely punctulate except for a small, nearly smooth, central portion; clypeus shining, with a complete, fine, sharply raised margin. Front with a shallow depressed space including the ocelli; antennal tubercles rather small. Antennae as long as the body; scape cylindrical, elongate, nearly as long as the thickness of the head; first flagellar joint twice as long as thick; second one-half shorter; remainder nearly quadrate. Palpi long, very slender, the last joint yellowish at tip. Prothorax smooth and shining. Mesonotum without parapsidal furrows, although the median portion is somewhat produced anteriorly. Scutellum with a narrow, smooth groove separating it at the base from the mesonotum. Metathorax without carinae, polished, smooth except for small very sparse punctures on the sides. Abdomen long and narrow, no wider than the thorax. First segment one-half wider at apex than at base, its median elevation ovate, pointed anteriorly, on each side of this with two smooth grooves separated by a carina before the raised margin; second segment one-half longer than broad; smooth, except that the anterior corners and the lateral margins are separated by a smooth groove from the central portion; third segment about quadrate, the anterior angles very indistinctly separated, following segments growing shorter; hypopygium longer than the pygidium. Pleurae smooth, with a deep femoral groove extending from the fore coxa to the root of the hind wing and a less pronounced groove just external to the oval metathoracic spiracle. Legs long and rather slender, with the hind femora clavate. Wings with the submedian cell indistinctly longer than the median, recurrent nervure interstitial with the first transverse cubitus; first section of the radius one-fifth as long as the second and half as long as either of the transverse cubiti; second transverse cubitus with its lower half perpendicular, but strongly bent toward the wing tip above; discoidal vein broken at its lower two-fifths. Stigma black, fulvous on its lower half.

One female from Rio Madeira, Brazil (Madeira-Mamoré R. R. Co., Camp 39), collected by Mann and Baker.

This is a very remarkable species on account of the long ovipositor, although several others are known in which this organ attains a similarly great length.

Iphiaulax Förster.

Of this genus, so richly represented in the neotropical fauna, a considerable number of species were obtained, at least five of which are undoubtedly undescribed. These may be separated as follows:

1. Wings dark at apex.....2
Wings with dark cross-band, but the anterior ones white at apex..*I. reduvioides*
2. Wings with distinct dark cross band before apex.....4
Wings without distinct dark cross-band before the dark apical portion; legs in part pale.....3
3. Face with a median furrow or depression, abdomen rather narrow; length 12 mm.....*I. fortis*
Face not excavated medially; abdomen rather broad, length 7.5 mm..*I. starksi*
4. Legs entirely black abdomen broad; ovipositor shorter than abdomen....
I. carapunæ
Legs in great part pale; abdomen slender; ovipositor longer than the body.
I. abunensis

Iphiaulax reduvioides sp. nov.

Female. Length 11 mm.; ovipositor 5 mm. Black, with the first abdominal segment except the apical portion of the central elevation, the sides of the second and third, extending inwardly somewhat along sutures, and the extreme lateral edge of the fourth, rufous. Tips of maxillary palpi yellow. Wings pale brown at the base nearly to the basal vein, then with a black band which includes over half of the second cubital cell, and apically white. Basal third of stigma bright fulvous, the color extending somewhat into the upper part of the first cubital cell; third discoidal cell with a hyaline spot basally above, hind wing black on apical half, basally pale brown. Venter fulvous on second, third and fourth segments, black beyond. Antennæ as long as the body and ovipositor together, head one half broader than thick, obliquely narrowed behind the eyes; ocelli surrounded by a grooved line; face finely rugulose punctate, slightly convex, with a faint, fine median carina, and an indistinct grooved line on each side near the eye-margin; front and vertex shining, impunctate, the former extending between the antennal tubercles as a polished median groove, malar space very short. Mesonotum highly polished, the parapsidal furrows smooth, but slightly convergent and obsolete behind. Scutellum smooth, with a line of large confluent punctures at the base. Metathorax without carinæ, smooth medially, punctulate laterally. Abdomen broadly oval, much wider than the thorax, the first segment quadrate, not narrowed basally, the swollen pleural portions visible from above on each side, as wide as the segment and blackish-yellow in color; median elevation narrowed

and rounded basally, separated from the lateral carinæ by a broad, smooth groove. Second segment four times as broad as long, the median field narrow, much attenuated behind. Third segment without median line or carina, the lateral angles separated by deep grooves; barely longer than the second medially and much shorter laterally, excluding the produced lateral angles. Third and fourth segments each divided by a transverse groove, the third with the lateral angles separated. Ovipositor fuscous, its sheaths black. Wings with the venation fuscous basally, black at the middle, and pale brown on the hyaline apical portion; second cubital cell half as long as the marginal, nearly one half longer below than above; recurrent nervure received almost at the apex of the first cubital cell, parallel with the first transverse cubitus.

One female from Abuná, Rio Madeira, Brazil, Mann and Baker.

This is a stout, heavy-set species with quite conspicuously pilose shining body and densely hairy legs.

It resembles most closely two neotropical species, *I. tristis* and *I. semialbus* recently described by Szépligeti (Termes. Füzetek., Vol. 24, p. 397, (1901)), but may be easily distinguished from the first by the form of the first abdominal segment and the wing pattern, and from the second by the absence of a carina on the third segment and the different color of the wings. It is a very striking form, reminding one of a Reduviid bug in shape.

***Iphiaulax fortis* sp. nov.**

Female. Length 12 mm., ovipositor 9 mm. Black, palpi pale; first four abdominal segments and base of the fifth ferruginous; coxæ and femora, except base of four anterior ones, hind tarsi, and hind tibiæ except bare inner edge, black; remainder of legs honey-yellow, except upper side of trochanters. Wings pale brownish-yellow, infuscated at tips. A rather slender species, with the abdomen elongate, the head distinctly broader than thick and rounded off behind the eyes. Face confluent punctate, with the median depression between the low antennal tubercles extending down to the finely punctate, margined clypeus. Eyes oval, four times as long as the malar space. Antennæ slightly longer than the body; scape twice as long as thick; first flagellar joint distinctly longer than the second; following about quadrate. Parapsidal furrows distinct anteriorly; scutellum with a line of square punctures across its base. Metanotum punctulate on the sides, thinly clothed with thin pale hairs, the lateral groove nearly divided by the oval spiracle. Abdomen sparsely and coarsely punctate except at base and apex. First abdominal segment with its median elevated portion somewhat narrowed and rounded anteriorly, but little narrowed behind, separated from the lateral carina by a coarsely crenulate groove; the segment about as long as broad behind. Second segment rugose-

punctate, the middle field smooth, triangular, short, but prolonged behind as a narrow elevation; on each side with a deep; oblique impression reaching to the posterior angles. Second suture straight medially, curved forward laterally, very broad, crenulate or striate, the anterior angles separated by a lateral, nearly transverse, crenulate groove. Third segment with separated anterior angles and a deep crenulate transverse groove near the base; fourth and fifth segments similarly sculptured, and the sixth obsoletely so. Legs slender. Wings with black stigma; first section of radius one-third as long as the second and two-thirds as long as the first transverse cubitus; second transverse cubitus with a hyaline spot below, slanted outwards above; cubitus not very strongly curved at base; submedian cell as long as the median; recurrent nervure received just before the apex of the first cubital cell; discoidal vein broken a little below the middle.

One female from Camp 39, Madeira-Mamoré R. R., Rio Madeira, Brazil (Mann and Baker).

This does not seem to be very closely related to any other species of similar color.

Iphiaulax starksi sp. nov.

Female. Length 7.5 mm., ovipositor 3 mm. Black, the scutellum and metanotum rufous, first four segments of abdomen, sides and base of fifth, fulvous; four anterior legs beyond the knees, and a stripe on the outer edge of hind tibiae yellowish; ovipositor fuscous. Wings yellowish hyaline, slightly darkened below the black stigma and infuscated beyond the base of the third cubital cell, veins all fuscous. Head one-third broader than thick, obliquely rounded behind the eyes. Face flattened, finely rugulose, the clypeus with a sharp, raised marginal line. Palpi pale. Antennae nearly as long as the body; scape almost three times as long as thick; first flagellar joint longer than the second; following quadrate. Mesonotum with the parapsidal furrows distinct anteriorly; scutellum with a crenulate line across the base. Metathorax scarcely punctulate laterally, its spiracles round. Abdomen rather broad. First segment at apex nearly twice as broad as at base, its median elevation oval, much narrowed basally and separated from the lateral carina by a rugose groove. Second segment with a short, broad basal median elevation which is prolonged to the apex as a carina; on each side with a deep oblique depression that marks off the anterior angles, but does not attain the posterior margin. Second suture broad, striate, straight medially and curved forward laterally as the separated angles of the third segment are produced forward; second to fourth segments sparsely, deeply and coarsely punctate. Legs slender. Wings with the first section of the radius nearly one-third as long as the second and two-thirds as long as the first transverse cubitus; second transverse cubitus nearly perpendicular, with a hyaline dot above and below, cubitus bent at the base; recurrent nervure received well before the tip of the first cubital cell; discoidal vein broken a short distance below the middle; submedian cell as long as the median.

One female from Pará, Brazil (Wm. M. Mann) named after Prof. Starks, a member of the expedition.

This species falls near two Brazilian species, *I. hirtulus* and *I. semiflavus* described by Szépligeti, but differs by its much longer ovipositor and different abdominal sculpture.

***Iphiaulax carapunæ* sp. nov.**

Female. Length 9.5 mm.; ovipositor 3 mm. Black, with the apical two joints of the palpi pale yellow and the first four, and base of the fifth abdominal segments bright ferruginous. Wings with a black transverse band beginning at the origin of the basal vein and extending into the base of the radial cell, beyond this infuscated and basally pale yellowish; stigma wholly black; hind wings pale yellowish at base, infuscated on apical half. Head one-half wider than thick, obliquely narrowed behind the eyes. Front impressed on each side above the antennæ and with a median carina that extends down between the short antennal tubercles. Face irregularly rugulose, the small clypeus distinguishable as a smooth spot; malar space short, one-fourth as long as the large, oval eye. Prothorax smooth on the sides, distinctly punctate medially. Mesonotum with smooth, parallel parapsidal furrows that extend to the posterior third. Scutellum convex, with a smooth impressed line across its base. Metanotum evenly rounded, without carinæ; punctulate on the sides. Mesopleura with a deep, oblique femoral furrow; and metapleura with a groove just external to the rounded-oval spiracles. Abdomen one-half broader than the thorax; first segment with an oval elevated portion that is rounded in front. On its sides is a pair of parallel smooth grooves, each separated from a second lateral smooth groove by a strong carina. Second segment with the middle field triangular, reaching beyond the middle of the segment and continued for a short distance as a raised line; sides and anterior angles separated by a very deep depression. Third segment with the basal suture strongly bisinuate and crenulate; the anterior angles separated by very deep impressions; with a triangular middle field that reaches nearly to the middle. Fourth segment with the anterior corners separated and with a transverse groove near the center. This groove is repeated on the fifth segment, and less distinctly on the sixth. Hypopygium shorter than the pygidium. Legs short, stout, and densely hairy, especially the hind pair. Wings with the submedian cell barely longer than the median; recurrent nervure received at the tip of the first cubital cell; first section of radius one-third as long as the second and two-thirds as long as the first transverse cubitus; second transverse cubitus straight, perpendicular; discoidal vein broken at its lower third. Stigma narrowly triangular.

One female, Rio Madeira Brazil (Camp No. 39, Madeira-Mamoré R. R.) (Mann and Baker).

This species resembles *I. polybothris* Brullé, but differs structurally as well as in color.

***Iphiaulax abunensis* sp. nov.**

Female. Length 11.5 mm.; ovipositor 14 mm. Fulvous; the head, except for the pale palpi and the red tip of scape and underside of pedicel; prothorax, except posterior angles; abdomen above, beyond the base of the fifth segment; ovipositor and its sheaths, all coxæ, middle of fore femora, middle femora, except base and apex, hind femora apical half of tibiæ, their tarsi, and apical joint of four anterior tarsi black. Fore wings pale yellowish with an uneven blackish median band and infuscated tips from the base of the third cubital cell; stigma black, hind wings slightly infuscated. Head transverse, not quite half broader than thick; antennæ slightly shorter than the body, the scape twice as long as thick; first two flagellar joints subequal, each twice as long as thick. Face sparsely and irregularly punctate on the sides, with a median flat, polished area showing traces of fine aciculations; clypeus finely irregularly punctate; antennal tubercles short. Eyes oval, three times as long as the malar space. Mesonotum with the parapsidal furrows indicated only in front. Scutellum with a crenulate line across its base. Metanotum smooth above, punctulate on the sides, with a deeply impressed groove just outside the elongate oval spiracles. First segment of abdomen, exclusive of its membranous sides, twice as long as wide, the lateral margins parallel; the median elevation ovate, pointed in front, constricted and truncate behind; on each side of this is a deep, narrow, groove before the carinate margin. Second segment nearly as long as wide behind, the median field long and narrow, reaching beyond the apical third of the segment; on each side of this is a broad longitudinal depression, then a carina, then a second similar, but narrower depression that extends to the posterior corner. Second suture rather wide, obsolete crenulate, slightly extended forward at the middle where the apical margin of the second segment is raised. Third segment the widest; twice as broad as long and faintly concave on its posterior margin; the anterior angles not produced forward, but separated as large spaces by a groove that curves across the segment from near the median line to the center of the lateral margin; with an indistinct, narrowly triangular median elevation. Fourth segment with an arcuate groove, interrupted at the median line, across the middle of its base. Legs rather long, not stout, wings with the cubitus strongly bent near the base; recurrent nervure received at the tip of the first cubital cell; first section of the radius one-third as long as the second and two-thirds as long as the slightly oblique second transverse cubitus; submedian cell slightly, but distinctly, longer than the median; discoidal vein broken near its lower third.

One female from Abuná, Rio Madeira, Brazil (Mann and Baker).

This is related to *I. excisus* Szépligeti, but differs by its shorter ovipositor and different abdominal sculpture, the second segment having two pairs of longitudinal grooves, and the fourth having an arcuate line, without lateral curved lines.

Subfamily RHOGADINÆ

Rhogas Nees.

There are two species, both undescribed, in the collection, which brings up the total of Brazilian species to five. These may be distinguished as follows:

1. Recurrent nervure inserted in the first cubital cell.....2
 Recurrent nervure interstitial or nearly so.....4
2. Wings of uniform color.....3
 Wings distinctly bifasciate.....*R. bakeri* sp. nov.
3. Pale yellow, with head, antennæ and four hind legs beyond the knees deep black.....*R. insignipes* sp. nov.
 Yellowish red, with abdomen blackened above; all legs pale beyond the knees.....*R. braziliensis* Szép.
4. Legs entirely pale, wings distinctly bifasciate.....*R. maculipennis* Szép.
 Hind femora mostly black; wings very indistinctly maculate.....*R. pulchricornis* Szép.

Rhogas insignipes sp. nov.

Male. Length 8 mm. Uniformly pale ochre-yellow, very conspicuously and sharply marked with black as follows; entire antennæ and head, except palpi; last joint of fore tarsi; middle legs beyond the basal third of the tibia, and hind legs beyond the extreme base of the tibia. Wings tinged strongly with yellowish-fuscous; veins pale brown; stigma wholly piceous; pale parts of body with pale yellow pubescence; black parts with black. Head somewhat over twice as broad as thick antero-posteriorly, the front occupying only one-fourth the width of the head when seen from above. Face of the same width as the front, transversely rugose aciculate, with a short, sharp keel below the antennæ. Eyes very large, deeply emarginate opposite the antennæ; malar space extremely short, only half as long as one of the middle joints of the antennæ. Ocelli very large, the lateral ones nearly touching the eye-margin, due to the narrowness of the front. Antennæ as long as the body, about 65-jointed, gradually tapering, the joints about quadrate. Head behind the eyes microscopically rugulose. Mesothorax dull, but not punctate, the parapsidal furrows sharply defined but not at all crenulated. Scutellum with a broad, deep, longitudinally fluted and medially divided depression across its base, dull like the mesonotum; post-scutellum paler and polished. Metathorax with the median and lateral carina complete, though delicate, the former bifurcating behind to form a very small petiolar area; surface of metanotum faintly roughened. Pleuræ smooth and polished. Abdomen with the median carina distinct on the first two segments, but without any distinct longitudinal aciculation; first segment one half longer than wide at tip; base two-thirds as wide as tip; second segment slightly transverse; following becoming more strongly so. Legs moderately slender. Wings ample; stigma lanceolate, emitting the radius at its middle; first section of radius two-thirds as long as the second; recurrent nervure received at half its own length before the tip of the first cubital cell; transverse median nervure entering the first discoidal cell before the middle.

One specimen from Independencia, Parahyba, Brazil (Mann and Heath).

The conspicuously blackened legs of this species render it very conspicuous and easily recognizable.

***Rhogas bakeri* sp. nov.**

Female. Length 6 mm. Very pale luteous, with the stemmaticum black, and the hind femora, tip of their tibiae and tips of all tarsi slightly infuscated. Wings pale yellow, with a basal cross-band of fuscous which is more or less separated into two spots, one on the basal vein and the other below the apical part of the submedian cell. Veins and stigma pale luteous, fuscous along the clouded parts of the wing. Head twice as broad as thick antero-posteriorly, the narrowest part of the front one-third as broad as the head, face faintly rugulose, with a short carina below the antennae. Antennae (broken at tips) probably about 40-jointed, the joints quadrate. Eyes large, emarginate opposite the antennae, but not very deeply so; malar space as long as the basal joint of the antennal flagellum. Ocelli large, the posterior ones as far from the eye-margin as from one another. Head punctulate behind the eyes. Mesonotum dull, with the parapsidal furrows present, but very weakly impressed. Scutellum with the basal impression coarsely striated, not divided by a median carina. Metanotum rugulose, with a median and lateral carinae, weakly elevated. Pleurae impunctate, the mesopleura larger and extending farther downward than usual. Abdomen with the median carina extending to the middle of the third segment; first and second segments very faintly longitudinally aciculated; first segment one-third longer than broad at tip, its base two-thirds as wide as the tip; second segment slightly longer than broad; third transverse, following much shorter, ovipositor nearly one-third as long as the second abdominal segment. Legs stout, the femora thickened, especially those of the hind pair. Wings with the stigma rather broad, its width nearly equal to the length of the first section of the radius which is fully as long as the second; recurrent nervure received more than half its own length before the tip of the first cubital cell; second cubital cell almost as high at apex as at base, the second transverse cubitus hyaline except at the corners of the cell; transverse median vein entering the first discoidal at its middle.

One female from Rio Madeira (Camp No. 39, Madeira-Mamoré R. R.) Brazil, Mann and Baker.

This is a rather anomalous species, showing somewhat of a transition to *Heterogamus* in the length of the first section of the radial vein. It is quite similar to the West Indian, *R. bifasciatus* Ashm., but the abdominal carina extends beyond the first segment.

Eucystomastax gen. nov.

Related to *Cystomastax* Szépligeti which it resembles in the peculiarly swollen palpi, but differing in the broadly sessile abdomen, longer submedian cell, smaller eyes, round metathoracic spiracles, etc.

Resembling *Rhogas* in general habitus. Head transverse, narrowed behind the eyes; margined behind. Malar space as long as the mandible; eyes moderately emarginate opposite the antennæ. Maxillary palpi 5-jointed, with the first to third joints greatly swollen, but not flattened; labial palpi 3-jointed, first joint thickened, but cylindrical. Clypeus sharply projecting, with a porrect mystax of stiff black hairs. Ocelli moderately large and close together. Antennæ setaceous, a little longer than the body. Thorax with the parapsidal furrows deep anteriorly, but abbreviated behind. Metathorax with a complete median and lateral carinæ; its spiracles rather small, round; mesopleural suture complete, crenulated. Abdomen with a strong median carina on the first two segments; a little longer than the head and thorax; coarsely longitudinally aciculated on the first, second and base of third segment; first segment one-third longer than the second, less than twice as long as broad at tip; second segment slightly transverse; third twice as broad as long; fourth to seventh strongly transverse; all the sutures very deeply impressed. Legs long, rather slender, densely hairy. Wing with the marginal cell nearly reaching to the tip, stigma lanceolate, radius originating just before its middle; first section of radius one-third as long as the second; second transverse cubitus not swollen; not so stout as the other veins; recurrent nervure at the apical fourth of the first cubital cell; transverse median vein inserted beyond the basal third of the first discoidal cell; discoidal vein broken far below the middle. Hind wing with the submedian cell half as long as the median.

Type. *E. bicolor* sp. nov.

This genus may be separated from the related genera of Rhogadinæ having dilated palpi as follows:

1. Palpi with the joints in part flattened, leaf-like.....2
Palpi with the joints swollen, but not flattened.....3
2. Second section of radius twice as long as the first; upper and lower sides of second cubital cell parallel.....*Macrostomion* Szep.
Second section of radius less than twice as long as the first; second cubital cell distinctly narrowed toward its tip.....*Pelecystoma* Wesm.
3. Metathoracic spiracles round; abdomen sessile....*Eucystomastax* gen. nov.
Metathoracic spiracles slit-like; abdomen petiolate.....*Cystomastax* Szep.

Eucystomastax bicolor sp. nov.

Male. Length 9.5 mm. Black, with the base of the mandibles, fore coxæ, and entire thorax except tip of metathorax, orange-yellow. Head twice as broad as thick, strongly convex below the antennæ; the face with a short median carina just below the antennæ; front smooth and shining, slightly concave; vertex and cheeks smooth; hind head punctulate; face smooth below on sides; elsewhere microscopically rugulose-punctulate. Mandibles with the upper tooth twice as large as

the lower one. Antennæ 68-jointed, slender, longer than the body, the flagellar joints all about twice as long as thick; the first three times; scape oval, twice as long as thick. Prothorax smooth and shining, deeply impressed across each side. Mesonotum smooth, strongly elevated, especially the middle lobe in front; the parapsidal furrows not sharp, but more or less indicated in front by broad impressions. Scutellum triangular, margined only at the sides of the basal impression; its disc with a few large punctures. Metanotum smooth medially in front, on the sides punctate and behind irregularly rugose. Pleuræ smooth, with a few punctures only on the metapleuræ. Abdomen highly polished, smooth beyond the base of the third segment. Legs long and thickly hairy on the tibiæ and tarsi. Wings deeply infuscated, nearly black, but with very little violaceous reflection; veins black, piceous beyond the cross-veins.

One male. Pará, Brazil. Mr. Wm. M. Mann.

This is a very conspicuous species on account of its brightly contrasting thorax, black wings and polished body.

Subfamily SPATHIINÆ

***Heterospilus fasciiventris* sp. nov.**

Female. Length 2.2 mm.; ovipositor 0.7 mm. Meso- and meta thorax, first segment and posterior third of second segment of abdomen black; head dilute piceous, black above. Scape, base of antennæ, ovipositor and legs pale yellow. Abdomen, except for the black markings, pale honey-yellow. Extreme tips of tarsi and ovipositor black. Head twice as broad as thick, moderately narrowed behind the eyes and somewhat excavated behind; strongly margined behind. Vertex shining; feebly, but distinctly transversely aciculate; with a circular impression to the side of each posterior ocellus, the two narrowly connected above the ocelli; posterior ocelli nearly as far from each other as from the eye margin; front slightly concave, weakly transversely aciculate, the lateral margin slightly carinate just above the antennæ. Antennæ long and slender, basal flagellar joint six times as long as thick; the joints near the middle of the flagellum four times as long as thick. Face honey-yellow, rugulose, clypeus honey-yellow, very convex. Mesonotum shagreened, with deep, convergent crenulate parapsidal furrows; middle lobe aciculate behind as in the following species. Scutellum shagreened, with a broad, deep longitudinally fluted groove across its base. Metathorax partly areolated; its upper face with a lateral carina, and the sides of a posterior carina, enclosing a large rugulose area which is angularly excavated behind by a large diamond-shaped supero-median area that is open behind at the apex of the metathorax and closed near the base; surface except on the basal area coarsely rugose-reticulate. Pro- and mesopleuræ shagreened, the former with a deep, oblique groove, the latter with a deep groove along its lower margin, several oblique foveate impressions at its anterior angle and with a crenate line along its posterior edge. Metanotum rugose-reticulate, with a minute thorn-like projection just above the middle

coxa. Abdomen as long as the head and thorax together; ovate-lanceolate; first segment twice as long as broad at tip, with a somewhat raised median space bounded by carinæ converging from the anterior angles, but not very clearly differentiated from the irregular longitudinal aciculations which cover the segment. Second segment nearly as long as broad at tip; aciculated on its basal two-thirds; crossed just before the middle by a crenulate impressed line, and at its posterior third by a broad, shallow groove; third to sixth segments smooth and shining. Legs scarcely thickened, sparsely beset with pale hairs. Wings subhyaline; stigma and veins dilute fuscous; the former, very narrowly triangular, emitting the radius somewhat before the middle; first section of radius two-thirds as long as the second; cubitus arising a little above the middle of the basal vein; first transverse cubitus wanting, second weak, but distinct; submedian cell a little longer than the median, the transverse median vein very short, almost punctiform; subdiscoidal vein interstitial, the second discoidal cell wide open.

One female from Ceará-Mirim, Rio Grande do Norte, Brazil. (Wm. M. Mann).

This species is much more slender and structurally quite different from the following, and when these small Braconidæ are better known the two will probably fall into different genera.

***Heterospilus meridionalis* sp. nov.**

Female. Length 2.6 mm.; ovipositor 1.5 mm. Black; apical half of antennæ and abdomen beyond the second segment piceous; scape and base of antennal flagellum castaneous; palpi whitish; coxæ pale yellow; tegulæ and legs dull brownish yellow. Wings slightly infuscated, with dark brown stigma and veins. Head shagreened above, rugulose on the face; barely twice as wide as thick and sharply narrowed behind the eyes; with a strong margin behind. Front concave above the antennæ, but not deeply impressed; ocelli in a triangle with its shortest side above, the posterior ones nearly twice as far from the eye as from one another. Face evenly convex, piceous, with a small raised smooth spot below the antennæ; clypeus dull yellow, semicircular, with the arcuate upper margin indicated by a fine raised line. Cheeks smooth and polished, malar space about one-third as long as the nearly circular eye. Antennæ 25-jointed, very slender; scape subcylindrical, twice as long as thick; pedicel quadrate; first flagellar joint four times as long as thick; following gradually shortening, those near the middle of the flagellum three times as broad as thick. Thorax finely shagreened, with a faint æneous tinge; parapsidal furrows deep and crenulate; middle lobe of mesonotum with three short, deep longitudinal grooves before the base of the scutellum. Scutellum with a broad, deep, longitudinally fluted groove across its base. Metathorax rugose-reticulate, with a rather ill-defined area on each side at the base; these areas much more finely sculptured except around the border. Propleuræ

with a broad horizontal, crenulate furrow, rugulose anteriorly and rugose-reticulate behind; mesopleura shagreened, with an arcuate crenate groove near the upper anterior angle and a similar one along its posterior edge. Abdomen as long as the head and thorax, curved downwards and obovate when seen from above; sessile, the first segment as long as broad at tip, the base somewhat over twice as broad as the apex. First and basal two-thirds of second segment longitudinally aciculate, the striae becoming finer apically; beyond to the apex smooth and shining, with broad rufous margins on the second to fifth segments; sixth entirely castaneous. Second segment with a fine impressed line across its middle and traces medially of a second groove just behind this line. Legs slightly thickened on the femora; sparsely pilose with pale hairs. Wings subhyaline, the stigma narrowly triangular, emitting the radius at its center; cubitus arising near the top of the basal vein, first transverse cubitus barely discernible, interstitial with the recurrent nervure; second one weak, but distinct; first section of the radius three-fourths as long as the second; submedian cell slightly longer than the median; subdiscoidal vein interstitial, the second discoidal cell wide open. Hind wing with a closed basal cell, but without a radius. Ovipositor as long as the abdomen, fulvous, black at tip; its sheaths piceous.

One female from Ceará-Mirim, Rio Grande do Norte, Brazil, collected by Mr. Wm. M. Mann.

This species approaches *H. nigrescens* Ashm. from the Island of St. Vincent, but has no white ring at the base of the antennæ, and the ovipositor is twice as long.

***Heterospilus dubitatus* sp. nov.**

Female. Length 2 mm., ovipositor 0.6 mm. Piceous, varied with rufous; legs testaceous, wings subhyaline. Antennæ with the scape yellow, except at tip; flagellum piceous, fuscous toward the base; palpi whitish; collar, mesonotum and mesopleura black; remainder of thorax rufous; abdomen black beyond the transverse groove on the second segment; rufous basally; ovipositor yellow, with black tip; legs pale testaceous, blackened on the tips of the tarsi.

Resembles *H. meridionalis* very closely in structure, but the antennæ are 23-jointed, the triangular area on each side of the metathorax at base is sharply defined, and not at all sculptured, except for a row of punctures around its edge, the first abdominal segment has a very distinct elevated median portion defined by a pair of carinæ that converge somewhat from the anterior angles to near the tip of the segment; the second segment bears two complete, approximate transverse furrows near the middle, this segment being considerably longer than wide instead of quadrate; and the first section of the radial vein is fully as long as the second.

One female from Ceará-Mirim, Rio Grande do Norte, Brazil. (W. M. Mann).

The three species of *Heterospilus* here described may be distinguished as follows:

1. First segment of abdomen as long as broad at tip; abdomen conspicuously banded with yellow.....*H. fasciiventris*
First segment distinctly shorter than broad at tip; abdomen black, more or less rufous at base.....2
2. Ovipositor as long as the abdomen; first section of the radius much shorter than the second; abdomen black.....*H. meridionalis*
Ovipositor scarcely more than one-half as long as the abdomen; first section of the radius as long as the second; abdomen rufous on the first segment and basal half of the second.....*H. dubitatus*

Family ALYSIIDÆ

Idiasta nigripennis sp. nov.

Male. Length 5.5–6 mm. Black, with the thorax and basal half of the abdomen honey-yellow; wings very strongly infuscated, almost black. Head large, highly polished, a little more than twice as broad as long, not narrowed behind the eyes. Clypeus very small, sharply triangular, closely punctate, face punctulate; front smooth and highly polished with a deep transverse depression above the antennæ and below the ocelli which occupy a small triangle far from the eyes; antennæ long, one-half longer than the body; with fifty joints. The fourth very distinctly longer than the third. Mandibles fuscous, with black teeth, coarsely punctate externally. Palpi very delicate and slender, pale yellow. Eyes almost circular, their diameter equalling the length of the fourth antennal joint. Mesonotum smooth and polished, with deep strongly convergent parapsidal furrows which unite far before the scutellum. Scutellum strongly convex medially in front, straight on its posterior edge, and at the base with a broad deep depression separating it from the mesonotum. This groove is divided on the median line by a fine carina. Pleuræ smooth and shining, the mesopleura deeply impressed just below the wing and with a foveate impression just before the carina which separates it from the metapleura. Metathorax smooth, with a strong median carina that bifurcates behind to form a broad triangular petiolar area; also with a lateral, strongly sinuate carina that curves laterally to go out beyond the moderately small, circular spiracle. Metapleura with a large deep foveate impression just anterior to the spiracle and a smaller one below, near the middle, just behind the anterior margin. Abdomen broadly sessile, peculiarly formed at the base in that the ventral part of the first segment spreads out laterally beyond the dorsal part; seen from above it is exposed behind on each side to a width of nearly one half the dorsal plate. The latter is less than twice as long as broad at the tip which is twice as wide as the base; spiracles at the middle, very prominent, their tips as far apart as the posterior angles; petiole at base with two short, convergent carinæ. Abdomen smooth and shining, but little widened medially and one-half longer than the head and thorax together; black above beyond the second segment. Legs slender, loosely hairy; entirely black, except for yellowish tips to the trochanters, bases to the tibiæ and a fuscous tinge on the tarsi and anterior tibiæ. Wings blackened,

piceous with black stigma and veins. Stigma lanceolate, the radius arising at its posterior third; half as broad as the radial cell; second section of radius twice as long as the first. First section of cubitus sinuate, the recurrent nervure received distinctly before the tip of the first cubital cell; submedian cell considerably longer than the median; subdiscoidal nervure arising below the middle of the discoidal vein, although in position it lies far forward, due to the upper section of the discoidal vein being nearly parallel to the axis of the wing. Hind wing with the radius and subdiscoidal vein well developed.

Four specimens, showing practically no variation, from Abuná, Rio Madeira, Brazil.

This is the first species of *Idiasta* to be described from the neotropical region.

EXPLANATION OF PLATE.

- Fig. 1. *Ophiogastrella maculithorax* sp. nov., wings.
- Fig. 2. *Eucystomastax bicolor* gen. et sp. nov., wings.
- Fig. 3. *Idiasta nigripennis* sp. nov., wings.
- Fig. 4. *Bracon crassilarsis* sp. nov., fore tarsus.
- Fig. 5. *Parabinarea manni* gen. et sp. nov., hind leg.
- Fig. 6. *Eucystomastax bicolor* gen. et sp. nov., maxillary palpus.
- Fig. 7. *Mesostenoides crassus* sp. nov., portion of fore wing.
- Fig. 8. *Cryptus heathi* sp. nov., portion of fore wing.
- Fig. 9. *Ophionellus manni* sp. nov., wings.
- Fig. 10. *Megapectes branneri* sp. nov., maxillary palpus.
- Fig. 11. *Bracon paraënsis* sp. nov., wings.